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ABSTRACT

This report summarizes studies related to school library media that have appeared in "Resources in Education" (RIE) or "Current Index to Journals in Education" (CIJE) between June 1981 and December 1985. Reports and papers on library media programs are discussed in the following three broad categories: (1) Library Media Programs (the current status of programs, the impact of media programs on learning, the role of state agencies, library skills instruction, student use of library media centers, the use of technology, and school/public library cooperation); (2) School Library Media Resources (censorship; availability of resources; resource needs, losses, and funding; technical processing; networking; and district level services); and (3) Personnel (the role of the school media specialist; competencies and certification requirements; school media staff; and district media staff). It is concluded that the role of the library media program in the educational process has emerged as a major concern in several areas, including the impact of media programs on learning, library skills instruction, student use of libraries, and use of technology. A 101-item bibliography is provided. (KM)

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SCHOOL LIBRARY MEDIA
RESEARCH AS REFLECTED
IN THE ERIC DATABASE

June 1981-December 1985

by Barbara B. Minor

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3

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Most of the material in this literature review has appeared in *School Library Media Annual* (volumes three and four) and is used here with the gracious permission of the editors, Shirley L. Aaron and Pat R. Scales.

4

FOREWORD

"Is there any research on _____?" Thus begins the dialog between a user and a librarian that takes place daily in thousands of libraries throughout North America and around the world. If the library happens to be a school media center, the question usually stems from a student's need to write a paper for a course. When the tables are turned and the school library media specialist becomes a student in a continuing education course or a graduate program, only the focus of the question changes: "Is there any research on (for example) the effectiveness of the school media center?"

What are the sources of research information about the school library media center? It is a paradox that a profession which specializes in acquiring and providing information for others does not have a better system for organizing and retrieving its own literature, especially the research literature. There are attempts in various professional library journals to report on research, but in no systematic fashion. From time to time, reports of research in progress can be found in the same journals, and *Dissertation Abstracts International* helps to locate doctoral level research. But what about other research—papers, evaluations, surveys, conference proceedings, surveys, and reports of federally-funded research projects? The ERIC system aggressively seeks this type of information for inclusion in its database. As it is added, however, it is organized only by the usual indexing and abstracting procedures. It is there, but someone must retrieve and organize it to make it immediately useful.

The editors of the *School Library Media Annual* asked Barbara Minor, Publications Coordinator for the ERIC Clearinghouse on Information Resources (ERIC/IR), to bring together the research literature that was entered in the ERIC database over a four-year period for publication in its 1984 edition. The success of this effort led to an update in 1985. It was then that ERIC/IR realized that such a useful amalgamation ought to be made more widely available. The final product is this Information Analysis Product (IAP), which combines the 1984 and 1985 chapters and adds several more current research studies not covered in the original papers. It is a rich resource that will go a long way in helping to answer the question: "Is there any research on the school library media program?"

Other sources will have to be consulted to obtain a comprehensive picture, of course. There is no one source where all of the research in the field may be found, but this volume helps to capture one large segment of the literature and summarizes it in a readable form. I am grateful to Barbara Minor for producing this IAP. It should save a lot of time and effort, especially when someone asks: "Is there any research on school media centers?"

Donald P. Ely
Director, ERIC/IR

TABLE OF CONTENTS

INTRODUCTION

The publication of the report of the National Commission on Excellence in Education in April 1983 with little or no mention of a role for libraries in the improvement of education was a disquieting sign of the lack of visibility of the services and resources offered by the group of professionals who, by training and experience, would seem to be the best equipped to prepare students for life in an information society. The situation was summed up by Liesener:

> It is a disappointment to see that in spite of the emphasis on learning and the development of the higher order skills necessary to function in an information society, so little attention is devoted in *The Nation at Risk* to the units and organizations that specifically deal with information resources and the facilitation of the learning of the information seeking and utilization skills alluded to throughout the report. . . . This omission represents one of the major problems faced by school and all kinds of libraries in attempting to perform their educational functions. The role of library media programs and their potential for significantly contributing to the solution of information problems must be perceived clearly by clients or their potential will not be realized and others will have to perform the critical intermediary function.[1]

This is particularly true of the school library media program as it seeks not only to meet the information needs of students and teachers, but to provide instruction in and experience with the techniques of information gathering and utilization from an increasingly complex array of information sources and providers.[2]

The importance of the school library media center and other libraries in the educational process was fully recognized in a joint report representing all sectors of the library field—*Alliance for Excellence; Librarians Respond to "A Nation at Risk."*[3] Published in July 1984, this is the final report of the "Libraries and the Learning Society" project sponsored by the U.S. Department of Education's Center for Libraries and Education Improvement in the Office of Educational Research and Improvement. The project also produced five position papers[4] and held four seminars in different U.S. cities to examine ways in which different types of libraries could respond to *A Nation at Risk.*[5]

This report also makes recommendations concerned with the role of the school library media center in the support of education.[6] These recommendations focus on such topics as teaching the effective use of information resources in connection with specific class work; making quality library services and resources available in elementary and secondary schools; the need for more rigorous standards; providing access to information resources through expanded hours of service or arrangements with academic and public libraries; the desirability of a broad educational background for the media specialist; and the need for professionally competitive salaries and working conditions for media specialists.

1

An assessment of school library media centers and public libraries is also recommended to determine "their ability to respond to the urgent proposals for excellence in education and lifelong learning," as well as research in such areas as information-seeking skills and behaviors, training and retraining, and developing a marketing strategy.[7]

The need for research as a basis for planning and implementing effective media programs has been well documented, as well as the need for greater visibility for such programs. Although less well documented, the need for bibliographic control of the research literature and its dissemination to the practitioner has been cited as a serious problem by Loertscher,[8] Aaron,[9] and others.

Aaron divides the research in school librarianship into four categories: doctoral dissertations; studies financed by the local, state, or federal government; research sponsored by associations, councils, or foundations; and studies conducted by individuals without outside support.[10] Access to various parts of this literature is provided by several databases and indexes, primarily Library and Information Science Abstracts (LISA), Library Literature, Magazine Index, Library Science Dissertations, Comprehensive Dissertation Abstracts, and ERIC (Educational Resources Information Center). Each has its own parameters of coverage that include school library media research.

ERIC has the potential for playing a particularly important role in disseminating information on research to the practitioner as it focuses on the fugitive literature of education, i.e., those uncopyrighted items not usually available through traditional channels, including research reports. The research may fall into any of Aaron's four categories, although very few doctoral dissertations find their way into the ERIC system except as conference papers and journal articles reporting the results of the original project.

In addition to providing bibliographic access to this literature through the monthly index, *Resources in Education* (*RIE*), ERIC makes available the full text of over 90% of the reports in its microfiche collection. There are more than 700 microfiche collections in the United States and around the world, many of them in libraries and readily available to the general public, and individual copies of most ERIC documents can be provided on demand by the ERIC Document Reproduction Service.

The information base of ERIC is broadened by the announcement of journal articles in the monthly index, *Current Index to Journals in Education* (*CIJE*). The journal articles are not included in the microfiche collection, but most of the journals covered are available in libraries or through interlibrary loan.

This review is limited to studies that have appeared in *RIE* and *CIJE* between June 1981 and December 1985. Reports and papers on these studies are discussed in three broad categories: (1) Library Media Programs, (2) School Library Media Resources, and (3) Personnel.

LIBRARY MEDIA PROGRAMS

Areas covered in this category include the current status of library media programs, the impact of media programs on learning, the state agency role, library skills instruction, student use of the library media center, and school/public library cooperation. There is some overlap between sections as some of the experimental programs implemented to measure their effect on student use of the library media center involved instruction in library skills. The three areas that have received the most attention are the current status of programs, the impact of programs on learning, and student use of media centers. The fact that there are several reviews of the literature and synopses of prior research on the impact of media center programs on learning would seem to indicate a renewed interest in this particular area.

Current Status of Programs

Studies of the current status of school media programs include (1) statewide surveys to assess progress, provide information for self assessment, or simply to describe the status quo; (2) an analysis of a state-funded special program for media centers; (3) evaluations of the school library media programs for two city school districts; (4) a summary of statistics from the 1978 Library General Information Survey (LIBGIS); and (5) studies of media programs in Nova Scotia and Scotland.

Statewide surveys. McGrew and Buckingham report on a second survey of school media services in Iowa that was conducted in 1980 to determine the degree to which new media service guidelines were being met.[11] Findings were compared with those of the 1976 survey to measure trends in holdings of books and sound filmstrips, periodical subscriptions, professional magazines, pieces of equipment, and expenditures. Data were also collected on videotape technology and microcomputers, which were not reported in the first survey. A definite trend toward reducing the amount of time a library media center was staffed by a professional person was found, and the overall conclusion was that there were tremendous inequities in school library media services for Iowa children.

A 1981 survey of all 1,010 Illinois public school districts by Goldhor and Thomassen collected data on general aspects of the districts and the school library media program.[12] Analyses of responses from 493 school districts focus on library media facilities, the number of cataloged books per enrolled student, the number of hours the centers are open, audiovisual equipment, availability of a microcomputer, expenditures, and affiliation with ILLINET (Illinois Library and Information Network).

Data from a May 1981 survey of Wisconsin's 433 school districts are summarized in a report from the Bureau of Instructional Media Programs which describes the current status of instructional media program administration at the district level.[13] Findings are organized according to the twelve basic topics addressed by the study: responsibilities of the district

3

media director; district level media staff; policies for planning and selection; services; resource sharing; union catalogs; membership in professional associations; audiovisual equipment; facilities; budget maintenance; staff changes; and a district media director profile.

Another report prepared by the Wisconsin Bureau of Instructional Media Programs provides data to enable instructional media specialists to compare the program of services, the size of the staff, the size and extent of facilities, and other elements of the program in their own schools with those of other school buildings of the same size and grade level in similar size districts.[14] Statistics are displayed separately for senior high, middle, and elementary schools, with further subdivisions by the size of the district by enrollment and by building size.

State program. A detailed analysis of Utah's Integrated Media Program is included in a report on eleven optional special programs in education funded by the Utah School Finance Program in 1979-80.[15] One of the major emphases of the program was the integration of the media system into the total instructional program as an integral part of the learning process. This assessment found a notable improvement in the Integrated Media Program over the ten or more years it had been in operation, including a considerable change in the number of learning options available to teachers and students, and improved self-images and motivation. This was attributed to the encouragement of planning, assessment, and evaluation, and the provision of personnel and additional materials in many schools by the state program. The retention of categorical funding for the program was strongly recommended.

Programs in city schools. The District of Columbia Public Schools School Library Resources Program as operated during the 1983-84 school year was evaluated via surveys of library media specialists and teachers to determine how well stated objectives of the program had been met.[16] Findings indicated that the project coordinator and an advisory group of library media specialists had researched materials and recommended selection criteria for the project; seven potential computerized services to be established had been identified; a plan for a pilot program in four senior high school library media centers had been developed; a twenty-one page core list of materials appropriate for High-Tech Science and Mathematics Information Banks had been developed; and library media specialists had submitted plans for their information banks.

A study of the school library programs in the public schools of New York City was conducted in 1985 by the Educational Priorities Panel and two of its member agencies, the Citizens' Committee for Children and the Women's City Club.[17] Findings of mail and telephone surveys and analyses of budget and payroll data indicate that 46% of the schools in community school districts had no funds available to purchase new materials, and that 80% of the elementary schools did not have a certified teacher assigned to the library. It was concluded that library programs in the elementary schools had a low priority, and specific recommendations were made for expenditures to purchase materials and hire staff. These funds would be contingent on maintenance of effort by the districts and the development of a district-wide plan.

4

10

Provincial, national surveys. A task force study of the school library situation in Nova Scotia conducted between June 1979 and June 1980 found an uneven distribution of school library services and recommended that: (1) library service be organized on a district or regional basis with a coordinator of library services and a library resource center for each district; (2) a stated policy, guidelines, and professional and financial assistance be provided by the provincial department of education; (3) school libraries contain audiovisual as well as print materials and provide services to meet the needs of various special school populations; and (4) libraries be made easily accessible to the physically disabled.[18] Cooperation with public libraries was recommended rather than joint operations.

Hamilton and Tucker report the results of a survey of 152 Scottish primary and secondary schools which was conducted in 1982 to determine the extent of development, organization, and services of school library resources centers.[19] Of the 129 teachers and school librarians who responded to the questionnaire, 124 indicated the presence of a resource center in their school. An analysis of the data indicated that 118 of the schools surveyed had a central library; about one half of the secondary schools in the sample had a qualified librarian but few other forms of help in the library; about one half of the schools had the resource collection organized by the same person who was responsible for the library; more than one half of the schools had a central catalog; just over one half had space set aside for the preparation of resources; about nine out of ten schools had their own reprographic areas; few primary schools had carrels or work bays, although a higher proportion of carrels was found in secondary schools; nearly a quarter of the schools had collections that were for staff use only; more than four out of five schools reported that they neither shared nor exchanged resources; and less than half of the schools issued a catalog.

Heintze and Hodes provide a summary of statistics gathered from the 1978 Library General Information Survey (LIBGIS) of approximately 3,500 public school libraries and media centers.[20] It was found that 85% of the 83,044 public schools in the United States had library media centers in the 1978 school year; almost 3 million pupils (7% of the total) were attending schools without a library/media center; 36% of the library media centers reported expenditures between $10,000 and $20,000; the mean library expenditure per pupil was $34.12, with almost no difference between the elementary and secondary levels; 47% of all library media centers in public schools had holdings of 5,000 to 9,999 volumes; the average number of volumes per pupil was 13.1; the mean number of periodical subscriptions per 100 pupils was 9.9; there was an increase of 46% in the average number of periodical subscriptions per school between 1974 and 1978; the total number of full-time-equivalent staff members was 84,413, down from the total of 101,465 in 1974; the total number of students per full-time-equivalent staff member was 481; an average of 739 students used the media center each week during the school session (1,055 high school students and 625 elementary school students); and the aggregate number of users served by public school libraries per week was 52.4 million, an average of 1.3 visits per pupil per week.

5

11

Impact of Media Programs on Learning

A "sampler" of research findings on the instructional role of the media center from the 1960s and 1970s is provided by two background papers prepared for an International Seminar for the Development of School Media Services in Elementary and Secondary Education for the World Bank Staff in 1982.[21] Additional studies described in more recent reports investigated: (1) achievement in schools with good media center programs; (2) the assumption that a positive self concept facilitates learning; and (3) the role of the media center in promoting positive self concept. The three literature reviews that conclude this section bring together information on a number of research projects.

Library media programs and achievement. Most of the three sets of studies summarized by Mahar focus on the impact of media centers/libraries on student achievement. The first of these studies was conducted by Gaver, who compared the achievement scores of sixth grade pupils in three sets of schools and found that pupils in elementary schools with libraries and librarians made significantly higher educational gain than pupils in schools with centralized collections or classroom collections only.[22] She also found significant differences in measures of educational gain from the fourth to the sixth grades in vocabulary, reading, language, and arithmetic.

El-Hagrasy developed seven forms to elicit information from sixth grade pupils and their teachers in two Newark, New Jersey, elementary schools.[23] The results of his study provided support for his hypothesis that the reading habits and library backgrounds of teachers would affect both the amount and kind of reading done by pupils and their library skills.

Michael Rutter et al., in seeking to identify any factors that could be indicators of the success or failure of secondary school students in deprived inner city areas of London, found that children's reported use of the school library correlated significantly with academic emphasis and outcome.[24] All of the schools with high academic ratings had good libraries, and some also had extended hours of service.

Perez reports on a project which organized six elementary school libraries in Guyana Ciudad, Venezuela, to demonstrate their effect on the modernization of education.[25] A study program developed to measure the effects of this project found that libraries, if organized as a system with common standards and procedures, were efficient means of educational renewal.

In their study of the American high school, Flanagan et al. collected data on many of its characteristics, including the size of the school library's book collection.[26] Correlation of these data with other factors revealed that an adequate library was one of the most important factors for English achievement, and that the number of books in the school library was one of the four most important treatment factors closely related to students' achievement, going to college, and staying in school.

A second set of projects summarized by Mahar include a study by Heyneman and Loxley which explored various influences on the academic

6

12

achievement of 13- to 14-year-old students in Africa, Asia, Latin America, and the Middle East.[27] Their findings support the concept that the predominant influence on learning is the quality of schools and teachers, and that media center and library materials and services have potential for influencing pupil achievement in developing countries.

In a study on textbook availability and the quality of education, Loxley examined the relative impact of families and schools on the test performance of Egyptian students.[28] He found that academic performance was tied to school quality much more than to the socioeconomic background of students, and made the assumption that media center and library materials might have a positive effect on student achievement.

Jamison and Montenegro evaluated a project which provided textbooks for public schools in the Philippine Islands as a means of raising student achievement.[29] At the end of the first year, they compared the academic achievement of a group of first and second grade pupils who had textbooks with that of a control group who did not. The results strongly indicated that the use of textbooks had a positive influence on student performance. By extension, it was concluded that school library materials and services might make a significant contribution to academic achievement.

Study of Schools of Indonesia compared the mean scores of rural and urban students with the number of students per school library book.[30] An index based on these data alone—information was not available on the types of books available, their condition, and/or their suitability—indicated that achievement rose with the number of books available in relation to the school roll. The level of achievement in grade 9 also suggested that an adequate library was not only strongly associated with achievement, but was one of the most significant of the school quality variables that were examined. In addition, the library services variable was found to be independent of home background factors in both rural and urban areas.

The last set of studies summarized by Mahar comprises three evaluations of the effectiveness of Title II of the Elementary and Secondary Education Act, which provided funds for school library resources, textbooks, and other instructional materials. One significant finding of the first study was that 57,876 schools reported an increase in the use of the media center by pupils with reading difficulties.[31] Data on eight schools that received unusually large amounts of materials for their media centers were reported in the second study.[32] The overall conclusion was that generous amounts of printed and audiovisual materials, together with competent faculties, change and improve both teaching methods and student use of materials. Conducted in schools where minimal amounts of materials were added to already small collections, the third study found that the additional materials increased the amount of reading by pupils, but no perceptible change in instructional methods used was observed.[33]

Further evidence of concern with the effects of the library media program on teaching and learning in the Third World is given in the second World Bank Seminar paper by Ogunsheye, who describes a study conducted in the Abadina Media Resource Centre at the University of Ibadan,

7

13

Nigeria.[34] A one-year concentrated investigation in 1976-77 studied three groups of children—an experimental group and a control group selected from public primary schools attended by the children of low-income and technical workers, and a second control group selected from a private primary school attended by children of the university's academic staff and professional class. The results of a test measuring language comprehension administered at the end of the year supported the hypotheses that a formal structured program would improve the learning skills of the primary school child, and that the acquisition of library skills and interaction with library resources would reduce learning disabilities or handicaps of children from disadvantaged homes.

Short argues that there may be a disparity between the actual value of the school library media program and its perceived value by people outside the library profession, and describes an evaluation study conducted in a rural school system in North Carolina.[35] This study compared standardized achievement test data on reference skills and reading for twenty fourth grade students randomly selected from each of four schools. These schools were selected from a group of elementary schools that had been ranked according to their compliance with school library media program guidelines; two of the schools selected had the highest ranked media programs, and the other two had the lowest ranked programs. Results of t-tests indicated that students in the two schools with good library media programs scored significantly higher on both of the skills, suggesting that the quality of the program may be related to student achievement.

Library media programs and self concept. Williams took a somewhat different approach to demonstrate the impact of the media center program on learning.[36] Focusing on the importance of self concept in the learning process, she investigated the presence of conditions of positive self-concept—cooperation, independence, success, positive atmosphere, challenge, feeling of value or acceptance—in elementary school instructional media centers. A descriptive case study research design using observation, interviews, and a diary of media center activities was used in three Wisconsin elementary schools representing different types of communities. Each instructional media center (IMC) had a full-time media specialist, a full-time aide, a variety of current printed and audiovisual materials, and a program of activities and services. Observable indicators for the six conditions examined were determined by a panel of library and media experts. All six conditions were present in the sample schools, indicating that the instructional media center can influence the development of a positive self-concept in individual children. The students found the IMC atmosphere to be positive, felt valued, had many experiences with and opportunities for success, cooperated naturally, and found the IMC to be a challenging area. The media specialists interviewed generally expressed their belief in students' individual worth and the need for media programs to support that worth.

Literature reviews. In his review of the literature, Bowie examines the research on the impact of media programs on learning from two perspectives—the "indirect" influence of the media specialist's involve-

8

14

ment in instructional development, and the "direct" effect of exposing children to a variety of materials.[37] Studies cited show that school media people were actively involved in curriculum development and revision, assisting curriculum committees in the selection of appropriate materials, and working with teachers in designing and testing instructional innovations. Several studies found that accessibility to and use of a variety of media center materials had a significant effect on student achievement, and demonstrate that this was especially true of disadvantaged children in inner city schools.

A comprehensive review of the research literature carried out by Marchant et al. in 1984 resulted in an annotated bibliography which contains twenty research reports.[38] The reports include doctoral dissertations completed since the 1950s, published articles and other literature in library science and education, and ERIC documents. Evidence provided by these studies that good school libraries enrich learning was strongest in three areas: (1) the verbal component of the SAT was shown to be related to good library service; (2) also tied to library service but with less substantial evidence were the quality of reading, problem-solving skills, use of newspapers, word study skills, verbal expression, improved self-concept, critical thinking, and curriculum areas such as physical and natural sciences, mathematics, and social studies; and (3) overall academic achievement was enhanced. Findings also suggest that centralized libraries perform better than decentralized classroom collections and that librarians with a Master's in Library Science develop and conduct more productive programs than those who lack the degree or have less education. These studies also provide insight into additional programs and services that would be most valuable.

In yet another literature review, Stahlschmidt and Johnson cite research showing that reading aloud on a regular basis for an extended period of time can influence reading and learning comprehension, vocabulary and language development, and attitudes toward reading.[39] Other positive outcomes observed by teachers and librarians that are difficult to measure are briefly described, i.e., a desire to read, a wider acquaintance with books, an awareness of the richness of language, a stimulant for growing minds and emotions, a shared experience, and a role model. Evidence that both school libraries and school library media centers play an important role in the read-aloud program is also cited.

State Agency Role

In her study of the role of the state educational agency in the provision of school library media services, Martin reviews the findings of various groups and individuals who have delineated the state agency's role, provides case studies of a selected group of nine state agencies, reports state educational media supervisors' perceptions of their role, and synthesizes the information into a model for the consideration of state educational agencies planning for improved information service.[40] The model proposes two alternative placements of the library media unit within the state

department of education—as a section in the division of public school programs and services or in the division for multitype library service. This unit would comprise several sections: School Library Media Programs and Services, Instructional Television Programs and Services, Media Support Services, and the Information Center. The functions proposed for each section are described, and job descriptions are given for the differentiated staffing pattern used in North Carolina.

Library Skills Instruction

Each of the the three studies reviewed in this section addresses a rather different facet of designing and developing materials for library skills instruction. The first is concerned with the instructional effectiveness of different delivery systems, the second focuses on the library research process, and the third describes and evaluates the effectiveness of locally developed instructional materials.

The effectiveness of three instructional delivery systems for teaching library media information retrieval skills was investigated by Zsiray using students from two eighth grade English classes.[41] The students were randomly selected for placement in one of three treatment groups: (1) microcomputer-based courseware, (2) lecture, and (3) independent-reading. A posttest on use of *The Abridged Reader's Guide* was administered to each group following instruction. Analysis of the data indicated that the effectiveness of the microcomputer-based courseware and the lecture approach were identical, and that both were more effective than the independent-reading method.

Focusing on the process high school seniors were experiencing while they used the library for two assigned research papers, a study by Kuhlthau was designed to obtain information for use in designing instruction that would assist students in learning the process of library research as well as library sources.[42] A model of the library research process based on the findings identifies six successive stages that can be used to describe the process to students and enable them to visualize what they can expect to encounter: (1) initiating a research assignment; (2) selecting a topic; (3) exploring information; (4) forming a focus; (5) collecting information; and (6) preparing to present. Rooted in psychological inquiry, this study examines the reactions of the students at each of the six stages, suggests techniques to help them work through each stage and evaluate their own library research, and emphasizes the importance of engaging the intellect of students as they develop their research topics.

Hendley describes the development of guide-worksheets on a word processor to introduce high school English and social studies students to some standard reference sources.[43] Class sets of twenty-eight questions were made for each worksheet to provide a different exercise for each student. Responses to a questionnaire completed by students in two English classes and oral feedback from instructors indicated that the method was instructionally effective, and efficient in the existing circumstances. Sample worksheets are included in the report.

10

16

Student Use of Library Media Centers

Studies in this category investigated the effects of various factors on student use of library materials: (1) booktalks by the media specialist; (2) the audiovisual component of the media center; and (3) the effects of teaching special programs at different grade levels. Two additional studies focused on the effect of posters on children's selection of books and patterns in book selection by elementary school students.

Booktalks. Level undertook a local research project to determine whether her style of booktalking was effective in influencing children to read, and whether children with lower reading abilities could be influenced to read as much or more than children with higher reading ability.[44] Sixty-four fifth graders were put into two groups by reading ability, and the low-reading-ability students were "booktalked" for fifteen minutes a day, four days a week, for three weeks; the other group came to the library at a different time. A tabulation of the results showed that Level had influenced the choice of books the children checked out during the three week period, and that, although the low-reading-ability students still read less than the high ability group, they read much more than they would be expected to.

Braeder reports on an in-house survey conducted in Vancouver, B.C., in a large secondary school with a multi-cultural, multi-ethnic student body, to obtain information on student response to booktalks.[45] Students were part of the normal library program, and data were collected via questionnaires completed after the presentation of each of eighteen booktalks. It was found overall that the talks expanded student reading areas by introducing different types of reading and new authors, and that they resulted in students signing out books.

Audiovisual component. The effect of the audiovisual (AV) component was emphasized by Hodges et al. when they examined the services, resources required for program establishment, and the impact of the media program on student skills and attitudes in fifteen Calgary (Alberta) senior high schools.[46] A student questionnaire was used with two twelfth grade classes in each school to determine attitudes or behaviors concerning the media center, the Liesener Inventory was used to catalog media center services provided, and site visits were used to obtain impressions of library arrangement and organization from students, teachers, and media center staff. A positive relationship was found between the existence of the audiovisual component and students placing a high value on the library program and using it extensively.

Special programs. An investigation of the effects of a special school library program for elementary students on their use of the library and their attitudes toward the library and reading is reported by Schon et al.[47] Subjects were sixth grade students in eleven schools in the greater Phoenix, Arizona, area. Library use by both the experimental and control groups was monitored during the twenty-week period of the study. Student attitudes were measured by library and reading attitude scales, and library media specialists' perceptions of the effects of the program were obtain-

11

ed through interviews. Although the findings were not definitive, the study suggests that students' attitudes toward the school library/librarian and reading improved as a result of the program, the treatment had an equal effect on both sexes, and school librarians can influence elementary students' use of the media center for both study and recreational purposes. The program was received positively by the participating media specialists.

Schon et al. also conducted an experiment in seventeen junior high schools in the greater Phoenix area to investigate the effects of a special motivational intervention program on the library use and attitudes of eighth grade students.[48] The experimental group in this study received a special six-week treatment designed to improve their understanding of, attitudes toward, and use of the school library. In this study, the treatment was found to have a significant effect on library use and library/librarian attitudes, although no effect on reading attitudes was indicated.

A study conducted by Gifford and Gifford investigated the effects of teaching a two-week unit on library usage to seventh graders on their use of the library.[49] The teachers of both the experimental group and the control group were asked to make assignments that would require library use. A frequency count kept for six weeks after the unit was taught indicated that total library usage increased significantly, with the experimental group using the library significantly more than the control group. The greatest gains were achieved in the areas of encyclopedias, the vertical file, the *Reader's Guide*, and usage during a free study period.

Book selection. To measure the effect of posters on children's selection of books from a display table, two displays—one with a poster—were placed in visible areas of one public library and five Iowa City elementary school media centers. Results reported by Watson and others indicate that children selected 10% more books from the poster table in the public library than the table without a poster, and 27% more books from the poster tables in the media centers.[50] The persuasive effect of the posters was more pronounced for the children in kindergarten through grade three than in grades four to six, and, to a lesser extent, influenced boys more than girls.

Circulation records for five years in one Hawaiian elementary school were analyzed by Bard and Leide to discover patterns by sex and grade level; identify titles, subjects, and types of books circulated; and determine circulation of Hawaiiana and books about Asia.[51] This study generally confirmed the findings of earlier research, i.e., girls seem to read more than boys; girls prefer fiction while boys prefer information books; and older children select fewer books from the imaginative literature and more realistic fiction, mysteries, and information books. Books on Hawaii, Asia, and Asian Americans did not circulate frequently.

12

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Use of Technology

Eleven studies on technology in media centers include two surveys of computer uses in media centers, a literature review on the effects of networking on library automation, and reports on the development of an online information retrieval system for a school district, the development and use of online catalogs, a microcomputer system for use in planning for library skills instruction, teaching online searching to high school students, and the impact of various locations of microcomputers in schools, including media centers, on computer use and educational outcomes.

Computer use in media centers. Givens mailed questionnaires to seventy-one school media centers throughout the United States to determine how computers were being used by these centers, the levels of satisfaction with current services, and whether the services provided by the computer were cost effective.[52] The twenty-six usable responses received indicated that computers were being used mainly for cataloging and reference searches in school districts using computerized services, with cataloging provided through a centralized support facility. Some schools were involved in networking, and some reported using computers for acquisitions, overdue notices, online reference services, and/or circulation. About 82% indicated a high degree of satisfaction with current services, but cost effectiveness could not be determined from the information provided.

Woolls et al. interviewed media specialists in nine states and conducted an extensive literature review to identify trends in the current use of technology in the administration of school library media programs and in school library/public library cooperation.[53] An executive summary of the final report published in 1982 summarizes the conclusions of the study and lists twenty-six trends in technology utilization for technical services, scheduling, circulation, security systems, information retrieval, and other administrative functions. Twenty-three recommendations provided for use in initiating, increasing, and expanding the management functions of library/media centers and programs include budgeting and the role of the state education agency. The complete report includes a state-of-the-art review, an extensive annotated bibliography, and case studies from the nine states involved in the study.

Networking and automation. Immroth's review of the literature on library automation and networking focuses on school library media center automation resulting from network participation.[54] Noting that automation and networking are treated as separate activities in the literature and that there is very little data on school library participation in networks, she concludes that the majority of school libraries have been slow to automate functions, and that the automation that has been done is more apt to be on a local, unilateral level than in working with other libraries. She feels that the few projects that have successfully introduced automation in school media centers are an indication that, with the appropriate training, school librarians have the ability to automate library functions and would be interested in doing so.

13

19

Regional networking. Burnham and Taylor report on an investigation of the feasibility of linking together three computerized systems—MARC (Machine-Readable Cataloging), COM (Computer Output Microfilm), and PRECIS (PREserved Context Index System)—to improve access to materials in school resource centers, and the subsequent development of a school library cataloging and information retrieval mini-network in Ontario.[55] In 1980, the computerized cataloging network provided cataloging information for over 90% of English language books and 50% of nonprint materials for the one secondary and four elementary schools in the network; other users of the national cataloging network were using the MARC format records produced by the project; each of the schools had received and produced multiple copies of COM catalogs; and the PRECIS subject index had improved access to both print and nonprint materials.

Online catalogs. A microcomputer and hard disk were used to set up an automated card catalog in an Edmonton, Alberta, elementary school learning resource center to determine if a computerized card catalog would provide a more efficient method of accessing materials for students in grades one to six.[56] Evaluation included pre- and posttests on computer literacy with a sample of second and fifth grade students, interviews with the teacher/librarian and library aide, teacher and student questionnaires, and records of circulation data, librarian activities, how the librarian and library aide spent their time before and after implementation of the project, and capital and maintenance costs. Results showed greater student interest in and use of the library, a dramatic increase in the use of the automated card catalog over the traditional type, and more use of nonfiction materials by students in grades one to three.

Armstrong and Costa report the results of evaluative studies of an online microcomputer catalog—Computer Cat™—which has been in use for three years in a Colorado elementary school.[57] The evaluation process included collecting data and recording observations to compare the effectiveness of the computerized catalog and a traditional card catalog in another elementary school in the same county. A study of use by second and fifth grade students and all classroom teachers found that it was easier to teach subject, author, and title concepts using the microcomputer catalog than to teach usage of a traditional catalog, that younger students used the computerized catalog more readily than the card catalog, and both groups of students used the nonfiction section of the media center more often than those in the control school. Another study showed that the one station of the computer catalog could handle searches by a fifth grade class in the same amount of time that students at the control school needed to complete the same assignment with the card catalog, even though there was a waiting line for the Computer Cat™. Both students and teachers expressed positive reactions to the computer catalog. Comparisons of the computerized catalog with the traditional catalog show that not only can records for a title be entered into the computer more quickly than cards can be filed, but it expands the capabilities of a library by increasing access to any one title.

14

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Curriculum mapping. A systematic approach to gathering and evaluating curriculum information is described by Eisenberg, as well as a process called "curriculum mapping" for using such information to identify the existing curriculum.[58] A pilot study of the feasibility and usefulness of curriculum mapping in identifying those units in a school's curriculum that are appropriate for integration with library media skills resulted in the development of a curriculum information system, CMAP, on a mainframe computer. Mapping was also successfully implemented on both an Apple IIe and a TRS-80 Model III using existing management software packages. Brief examples are provided to illustrate the type of analysis that is possible with such a database using minimal microcomputer capabilities.

Online searching. A course that introduced four classes of college bound high school seniors to the concepts and terminology of online bibliographic searching is described and evaluated by Craver.[59] Teaching methods used included a printed manual, a lecture, a case study, an audiovisual demonstration, and a small-group assignment in which students formulated their own search strategies and were given the opportunity to observe the execution of their searches online. The positive results of student evaluations of the course, student test results, and direct observation of how the searches were performed would appear to indicate that not only can high school students benefit from such a course, but that they can be taught to form their own information searches in the future.

Pruitt and Dowling describe a program in Montgomery County, Maryland, that gives high school students direct access to online databases, both as a means of introducing them to online information retrieval, and to expand the resources available to them.[60] The program also includes workshops for media specialists in the twenty-two participating media centers. Statistics for the first two years (1982-84) showed an increased use of online information retrieval during the second school year as staff and students became more familiar with searching techniques. It was also found that increased use at various times of the school year paralleled class assignments, and that use was concentrated in online databases in current affairs and the humanities. When it became apparent that use dropped at the end of the year because students' requests for source documents through interlibrary loan were not filled quickly enough to meet deadlines, teachers were encouraged to make long-term assignments earlier in the year.

Wozny describes an investigation of the use of libraries and library resources by fifty-three ninth grade honors students in science who received training in online bibliographic searching as part of the project.[61] The library media specialist in a middle-class suburban public high school worked with a science teacher to plan a major independent research assignment for three classes. In writing their papers, students were required to include retrospective and current information from online searching as well as standard printed reference, government, and business sources. A detailed analysis of student use of various types of materials and facilities indicated that online searching had succeeded in meeting one of the ma-

15

21

jor goals of the project—to expand the students' awareness of the different types of information available and the diversity of information providers. The important role of the librarian and teacher in guiding the students' research process was noted.

Location of microcomputers in schools. An analysis of data from the National Survey of School Uses of Microcomputers (1982-83) focuses on ways in which microcomputers are distributed in both elementary and secondary schools and the impact of their location on computer equity, level of use by teachers and students, and time for student learning.[62] The data indicate that locating microcomputers in libraries may improve equity in elementary schools and increase use by secondary teachers and students, but has little impact on learning or social and organizational outcomes. Other arrangements examined include keeping microcomputers solely in classrooms, putting them in laboratory situations, rotating them from room to room, and dispersing them among several locations.

School/Public Library Cooperation

The three studies in this area provide a report on a series of cooperative projects, discuss the potential for resource sharing between school and public libraries, and describe cooperative arrangements for cataloging a school library collection.

Crowe and Shaevel provide individual reports for each of thirty-four projects that resulted from a seminar held in October 1983 to initiate cooperation between school and public librarians working with young adults to increase their use of library resources.[63] Each report includes a brief description of the project and its objectives, the process used to initiate the project, any youth participation in its implementation, its current status, the greatest obstacles encountered, reactions of young adults, observed changes in young adult library use or administrator attitude toward cooperative projects, and factors involved in its success or lack of success. The wide variety of approaches reported include preparation of audiovisual orientation materials, programs to promote reading, compilations of resources of various kinds, and special programs for young adults.

Arguing that a school reading program may become more cost efficient if community resources are used, McCabe surveyed public libraries in a suburban area near New York City in 1983 to determine whether they could be easily used by students, and whether teachers and librarians were interested in cooperating.[64] Factors examined included the number of hours public libraries were open per week; their distance from schools; ages of public library users; and contacts with schools, whether initiated by the public library or the school. No long-term school policy including the community's libraries was found, although informal cooperation was excellent in some situations, and almost 60% of the responding public libraries wanted more and better official contact with the schools. McCabe concludes his report by suggesting some ways to establish a more effective working relationship between the schools and the community's public libraries.

16

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Krenz describes two arrangements for interlibrary cooperation in Wisconsin.[65] In the first, a small school district with a limited budget worked with a university library and OCLC to complete the cataloging of the library collections in all of its schools—including audiovisual media—at a lower cost than either hiring a clerk to type cards or buying cards from a vendor. This arrangement was ended and a second cooperative agreement was made by the same school district with a regional library system three years later when the state recommended that each school district have a central media center for processing library materials. The school system could not meet the cost of setting up its own center, and it was a question of finding an economical way to meet the state's recommendation. It was found that the costs of contracting with the library system for acquisition, cataloging, and processing services were well below the national average for such services.

SCHOOL LIBRARY MEDIA RESOURCES

Studies of factors influencing school library media resources are reviewed in this section, which includes several surveys of censorship attempts and a study of censorship by school book clubs. Also reported are studies on the availability of resources, including the make up of library collections and the influence of selected factors on film selection and on the circulation of printed materials. Resource needs, losses, and funding are also addressed, as well as technical processing, networking, and district level services. The two areas receiving the most attention in this area are censorship and networking.

Censorship

Five studies designed to obtain information on attempts to censor library materials present the results of an analysis of such attempts reported to the American Library Association's Office of Intellectual Freedom, three surveys conducted by state education agencies, and an analysis of attempts in a school district. A sixth study itemizes book protests from both the American Library Association's *Newsletter on Intellectual Freedom* and the newspapers for a survey of the issues raised in secondary schools, especially in the library and English classrooms. The final study in this section addresses a different aspect of the problem by examining the effects of parent and teacher complaints on the publishers and authors of books for children and young adults.

In a study of censorship at the national level, Woods and Robinson analyzed 425 attempts in U.S. educational institutions and public libraries that were reported in the American Library Association's *Newsletter on Intellectual Freedom* from 1976 to May 1981, and compared the results with a previous study covering 1966 to 1975.[66] They found that by far the larger number of attempts were made in school libraries. Books and textbooks were the items most frequently challenged, followed by films and newspapers. Challenges from within the school system came primarily from administrators and boards of education, while parents and clergy led the objectors from outside. The leading objections were language, obscenity, pornography, and offensiveness. Less frequently cited were promotion of sex, explicitness, profanity, religious reasons, and racism. The censored items listed include books, films, magazines, movies, and plays.

Hopkins conducted a national survey to ascertain the perceptions of state leaders regarding censorship of K-12 instructional media center (IMC) materials during the 1982-83 school year.[67] Analyses of the usuable responses received from thirty-nine states include the number of respondents who kept records of censorship attempts; the number of states that had conducted surveys in the previous three years; the estimated number of districts with school board approved selection policies; and the major reasons given. Except for the addition of evolution, the objections were much the same as those in the preceding study. The most frequent

18

initiators of attempts were again found to be parents, and the same types of materials were challenged. Estimates are also given of the number of challenged materials removed, and two important trends are identified: perceived organization of conservative political or religious groups, and a rise in the number of districts with school board approved policies.

Professional staff in school libraries and instructional media centers located in 229 Wisconsin middle and junior high schools were surveyed in May 1980 to collect information on censorship attempts in their schools in 1978-79 and 1979-80.[68] Data reported by the 212 respondents include the number with school board approved policies and provisions for review; number of censorship attempts; disposition of materials challenged (retained, removed, moved to another school, placed on restricted shelving, or edited); types of materials challenged; and the reasons given. Reasons given that were not mentioned in either of the preceding studies were nudity, drugs, witchcraft, and violence. Parents were again the most frequent initiators of complaints, followed by administrators and teachers.

In another survey on the state level, this time in Minnesota, McDonald and Stark included public libraries as well as school libraries.[69] Challenges to materials were reported by 37% of the secondary school librarians, 52% of the elementary school librarians, and 43% of the public librarians. They also reported that 36% of the challenged materials in secondary schools, 33% in elementary schools, and 9% in public libraries were removed or restricted. Most reported having written school board or officially adopted selection or reevaluation procedures for library materials, although less than half said that they followed the policies fully. Parents were again the greatest source of challenges, and books were the most frequently attacked resource in all libraries. Reasons given were primarily obscenity, immorality, and profanity.

To gain a longitudinal look at the censorship problem facing schools and librarians, Stahlschmidt analyzed the 110 requests for reconsideration of library or instructional materials that were processed by the Reconsideration Committee of the Cedar Rapids (Iowa) Community Schools from January 1971—when a written selection policy and procedures for handling challenged materials were implemented—through May 1981.[70] The analysis revealed that most of the requests dealt with materials in use at the elementary level; the two formats most often challenged were picture books and fiction; the literary genre most often challenged was contemporary realistic fiction; the number of reconsideration requests had risen significantly since 1973; and challenged materials were usually retained, except for those involving alternative lifestyles. Sixty percent of these materials were removed from the library. The nature of the complaints remained relatively consistent over the years, and the factors identified as most significant in determining whether material would be withdrawn were depiction of sex and sexual activity, the appearance of sexism in the work, the depiction of established family tradition or of alternative lifestyles, and the level of the library, i.e., elementary school materials were more frequently questioned.

Focusing on the issues raised in secondary schools, especially in the

19

25

library and in English classrooms, Donelson tabulated books protested in the American Library Association's Newsletter on *Intellectual Freedom* and newspaper articles about censorship between January 1972 and September 1984.[71] He concludes that censorship is probably getting worse, and that "only naive English teachers or librarians will be surprised by most of the top twenty-six targets of protesters." Listed in rank order from the most frequently to the least frequently protested books between 1980 and 1984, the top ten books according to his survey would be: (1) *The Catcher in the Rye*; (2) *Of Mice and Men*; (3) *Forever*; (4) *Go Ask Alice*; (5) *The Grapes of Wrath*; (6) *The Adventures of Huckleberry Finn*; (tied for 7) *Deenie, Then Again, Maybe I Won't*, and *Brave New World*; and (10) *Lord of the Flies*. He was encouraged that not everyone connected with schools wanted to take books off shelves or to aid those who wish to do so.

Research on censorship by school book clubs completed by the Intellectual Freedom Committee (IFC) of the Young Adult Services Division (YASD) of the American Library Association (ALA) discovered that expurgating books was practiced by three of the major school book clubs.[72] Information was gathered though a year of interviewing representatives of the book clubs, an informal survey of authors, comparing texts of hardcover and book club editions, and consulting with YASD's Publisher's Liaison Committee and Best Books for Young Adults Committee. Although practices among the book clubs differed, representatives from all three stated that the number of books changed was very small. Nine of twenty-seven young adult authors interviewed who had sold titles to the three book clubs reported that changes in the text or title had been requested before the book was accepted. Such changes included the elimination of offensive language, references to sex or human anatomy, the removal of violence, or a reference to the devil. The book clubs cited complaints from parents and teachers as an important factor in their decisions, while authors were concerned with loss of readership if they declined to make the changes and their books were not accepted by the book clubs.

Availability of Resources

Two studies in this section, both conducted in Canada, are concerned with the availability of specified materials in media centers and the attitudes of library personnel toward these materials. Three additional studies examine overlap and duplication in elementary school and public library collections, the use of a list of recommended films in selecting library materials, and the effects of selected variables on book circulation in school libraries.

In order to measure the commitment of school librarians to the inclusion of Canadian materials in their collections, Fasick and Wilkinson mailed questionnaires to a random sample of elementary school libraries in Ontario in 1982 inquiring why they did or did not subscribe to certain specific Canadian and U.S. nature magazines.[73] The libraries in the sample were found to be providing their clientele with a wide range of both

20

Canadian and U.S. children's magazines, and there was no evidence that American periodicals were being purchased in preference to those published in Canada. High interest was the principal reason given for selecting a given title, and the decision in some cases not to buy the French language version of one title was considered to be consistent with that criterion. A separate analysis of the responses from school librarians without library training revealed that the presence or absence of training appeared to make little difference in the decision to buy or not buy specific periodicals. The study also found that no matter how large or how small the materials budgets were, most school libraries spent between 5% and 15% of their budgets on periodicals.

Dick conducted a survey of fifty-nine elementary school librarians in a Winnipeg (Manitoba) school district in 1979 to determine their attitudes toward Bible literature collections and the adequacy of such collections in their schools.[74] Data from fifty-one completed questionnaires indicated that respondents generally approved of the inclusion of Bible literature in school library collections; less than half believed that their collections were adequate; publishers' catalogs were the most frequently used selection tool; and very few of the titles from a list of highly recommended books were represented in the school library collections.

Both overlap and duplication in children's collections were studied by Doll using a sample of book titles drawn randomly from the shelflist of two elementary school libraries and the public library in each of four Illinois communities.[75] She found that there was less overlap between two school libraries than between a school library and a public library, and that there was little duplication in individual library collections. The same patterns were found in audiovisual materials.

Aceto reports on an exploratory survey of public library systems (PLS) and Boards of Cooperative Educational Services (BOCES) film collections in New York State.[76] This survey was conducted in 1983 to determine the extent to which film titles from the annual Selected Films for Young Adults (SFYA) lists are included in libraries for professionals who work with young adults, and whether there are differences in ownership of SFYA titles in public and school libraries. Librarians were given a checklist of titles from the 1975-83 SFYA lists, but were not told the source of the titles. Analysis of the data showed that an average of only 29% of the films were owned by public libraries and 11% by BOCES libraries. Further studies on a regional and national level are recommended to address the causes for this phenomenon and to test the tentative conclusions of this study.

The influence of selected factors on loans of printed materials to individuals in a sample of Quebec primary and secondary school libraries was studied by Houle and Montmarquette.[77] Data for 1978-79 came from two main sources: an annual library survey which provided quantitative information on loans, human resources, and physical facilities, and a school data file containing information on school characteristics. It was found that the most important determinant of the number of loans was the number of books per pupil in the library collection, with the positive

21

effect much stronger when library personnel were present. The number of operating hours per week was also important, as well as the size of the library area (at the secondary level) and the number of chairs (at the elementary level).

Resource Needs, Losses, and Funding

An assessment of media and materials needed by handicapped students and their teachers, a study of book losses in school libraries, a survey of media center budgets to determine the current status and trends, and an investigation of the effects of budget cuts on elementary school library media centers are reported in this section.

Vale et al. present a statistical analysis of the media and materials needs of special education teachers and students that were identified by a survey of thirty-three states.[78] The top three priorities for material development identified by teachers of the severely retarded or handicapped were in the social development, daily living skills, and cognitive development curriculum domains. Supervisors, media specialists/librarians, curriculum development specialists, and inservice training specialists named appropriate social behavior, self concept, and independent living skills. Combined results from all teachers of the handicapped rated social behavior, reading comprehension, and self acceptance as the areas most in need of materials and media.

A survey conducted by Gates and Hendley in 1977-78 to determine the loss levels of library materials at school media centers and libraries in a two county area of central New York State examined the relationship of various factors to the rate of loss.[79] In the twenty-eight participating schools, the school population correlated with book loss only at the senior high level, where a greater number of students resulted in a greater loss of materials, and detection systems in four high schools seemed to correlate with lower losses. Such factors as seating capacity, number of supervisors, class scheduling in elementary schools, access to the collection in high schools, and shelving of the audiovisual collection, whether in an unsupervised area or integrated with the regular collection, did not correlate with book losses.

Miller and Moran mailed questionnaires to 2,000 library media centers in April 1983 to collect information on budgets for and expenditures by school library media centers in fiscal year 1982-83.[80] Responses were received from 1,179 public and 72 private schools. Results of the survey indicate that, although school library media specialists have made progress over the last twenty years in their efforts to provide a library resource center in every school, adequately stocked and maintained multimedia collections have not been achieved for all schools, and collection erosion is a serious threat at the current level of funding.

In a follow-up study for fiscal year 1983-84, Miller and Moran followed the same pattern, but sought additional information about expenditures for audiovisual materials and equipment, the condition of the collection, patterns in collection development, the educational background of the head

22

library media specialist, and patterns of use of microcomputers by both students and library media specialists.[81] They found that although some library media centers were very well supported, there were still many that were not, and numerous schools reported very limited funding. On a more positive note, the respondents indicated that they were trying to provide a wide range of resources and enter the electronic age.

An investigation of the effects of budget cuts on elementary school library media programs in Arizona conducted by Watt and Schon in 1981 revealed that 71% of the respondents had experienced budget cuts for that school year and 8% expected cuts the following year; reduced clerical/technical assistance (54%) and reduced book and materials budget (42%) were the most frequently cited results of budget cuts; 71% received strong support from school staff; and low morale was not a problem for 54%, although 21% marked both "some problem" and "quite a problem."[82] Comparison of responses about various library media center program areas in the two years covered by the study indicate that similar programs and services are being provided with only minor changes within areas.

Technical Processing

The single research project in this area addressed the usefulness of training in cataloging for media specialists.

Truett describes a survey of 200 media specialists who were randomly selected from the 1982-83 directory of school personnel in Nebraska which was conducted to determine the extent to which they were actually involved in processing both print and nonprint media materials and the tools they used.[83] Almost three fourths of the 159 respondents indicated that they were responsible for their own processing even though centralized processing was available in some districts. About half received most books already cataloged, but they still had to process audiovisual materials and some print materials. Fourteen percent reported that they processed all of their own materials regardless of format. Almost all used Dewey Decimal Classification and the Sears list, and about one third reported using *Anglo American Cataloging Rules* (first or second edition) as an authority for main entries. Interest in a variety of cataloging workshops was expressed by the respondents.

Networking

Research on networking reviewed in this section is concerned with school library media participation in networking in the United States, a pilot project involving five New York State school systems, and two projects in individual school systems.

A survey conducted by Sive in 1982 focused on school library participation in networking with particular emphasis on resource sharing through free interlibrary loans of materials from other libraries, open access for students to nearby public and/or academic libraries, and free access for

23

29

staff to information in electronic databases, especially ERIC.[84] Reports on networking activities in fourteen states describe a variety of structures and mechanisms for enhancing information access for schools and include the very few available statistics.

The results of a national survey conducted in 1977 and a follow-up survey in 1982 are compared by Rogers to measure media center progress in cataloging nonprint materials, and to gather data on school media center participation in bibliographic utilities and networks.[85] The results show that school library media specialists in more than half of the states have recognized the advantages of using current standard cataloging practices even though it may mean learning and applying new rules; schools in twenty-eight states currently participate (or plan to participate) in single-type school networks; schools in thirty-three states currently participate in multitype library networks; and only about 5% of the libraries using OCLC are school libraries.

Angus evaluated the programs undertaken by five New York State school systems to provide a basis for cooperation and sharing of school library resources and services prior to integrating school libraries into already existing systems for public and research libraries.[86] Information gathered during interviews with school library media personnel in 1980 indicated that most of the public school libraries in each of the areas had joined the school library system; operation of each system was in the hands of an experienced school library media specialist under the auspices of a BOCES or a big city school district; each system had developed different priorities and methods for providing services to their schools; and cataloging and processing procedures used ranged from commercially available cataloging services to use of OCLC or MARC fiche. A first step for most of the systems was the development of interlibrary loan services and union catalogs, and library media personnel responding to a questionnaire listed the increased availability of resources through interlibrary loan as a benefit of membership in their system. Other cooperative arrangements were being studied.

Walker examined the results of a pilot project which provided high school students, faculty, and staff in a Maryland county public school system with direct access to the state library loan system in 1981.[87] A general analysis of the 703 requests received during one semester indicated that high school students were by far the heaviest users, followed by elementary teachers, central office professionals, middle school students, clerical staff, middle school teachers, and high school teachers. Both high school and middle school students frequently specified class assignments as the reasons for their requests, while elementary school students specified personal interest. Teachers most often indicated college courses, and central office professionals specified administrative decisions. The topics of the requests from the various groups are listed by Dewey classifications.

A brief evaluative report for 1980-81 documents the successes and failures of the first two years of the New York City School Library System (NYCSLS), a pilot project aimed at developing a network of cooperating school libraries to participate in the sharing of print and media resources,

24

30

cooperative collection development, and other resources.[88] Activities reported include use of the New York Public Library's remote terminal computerized service to create and provide subject access to a database of specialized library collections in selected public schools; implementation of a library interloan system; and production of an annotated union catalog of audiovisual media.

District Level Services

Two studies of district level services focus on the distribution of nonprint materials to teachers of handcapped children and problems with a centralized system for ordering and processing materials.

A study by Brodeur and Heinich surveyed the directors of a stratified sample of district, county, and regional media centers in 1979-80 to determine whether, with the implementation of P.L. 94-142, these centers were providing nonprint materials to teachers for use with handicapped learners, and the extent to which such materials were included in the system of distribution.[89] They also examined the procedures used for the selection of nonprint educational media and the training, experience, professional identity, and job priorities of the media center directors. Findings reported include the number of requests for handicapped learner materials, the sources of such requests, and a profile of the media center directors.

Hendrickson and Celestre provide a detailed report on an investigation of complaints by school personnel in a medium-sized school district about time lags in receiving books from the centralized system for ordering and processing school library materials.[90] Analyses of data collected in 1976 through interviews, questionnaires, and a random sample search of ordering and processing records, revealed a persistent pattern of time lags at each stage of the operation. The investigators concluded that the basic problem lay in a lack of adequate planning and documentation before the program was implemented.

25

31

Studies on library media personnel address the role of the school media specialist (including their knowledge of and attitudes toward computers), competencies and certification requirements, the tasks that make up the day of the library media specialist, use of student aides in school libraries, and district level media staff.

The Role of School Media Specialists

Attitudes of various groups toward media specialist involvement in instructional development, an analysis of the tasks performed by library media specialists, media specialists' attitudes toward and interest in computers, and the role of media specialists in teacher use of instructional television are addressed by the reports in this category.

Pitts reviews the literature on the attitudes of administrators, teachers, and media specialists toward participation in instructional development by the library media specialist.[91] Findings are highlighted and illustrated in a fictitious account of the personal experiences of a library media specialist who has encountered examples of both positive and negative attitudes in her first year in a new school.

A questionnaire which identified twenty-one selected library/media-related tasks and other tasks frequently assigned to instructional personnel was developed for a study reported by Pitts.[92] This questionnaire was mailed to 300 randomly selected Mississippi media specialists who were asked to identify their time per task for a working day. Results indicated that the 101 respondents spent more time "keeping study hall" (19%) and "working with students or teachers in the instructional program" (10%) than any of the other twenty-one items. Implications of the study are discussed and twenty-three technical and administrative tasks for which media specialists are responsible are identified.

Smeltzer sent questionnaires to fifty randomly selected members of the Texas Association for Educational Technology in 1980 to assess their computer background and attitudes toward computers in society and in education.[93] The twenty-nine respondents indicated that they saw the computer as a useful medium for teaching a variety of subjects; helpful in much of the daily operation of the library media center; and useful in maintaining equipment and material inventories and conducting database searches. They also saw the computer as potentially useful in material selection and instructional development. Their computer background, however, appeared to be inadequate for them to assume the role of an instructional leader in computer-based instructional systems.

A statewide survey of school media specialists was conducted by Truett to determine the current status of microcomputers in Nebraska schools.[94] Almost three-fourths of the respondents (N=144) reported having microcomputers in their schools, but three fourths of the group in schools with computers claimed that they never had a computer terminal available

26

in the media center. Over 90% indicated a need for more training and expressed great interest in attending workshops on media center applications, including library inventory, library instruction, cataloging, and circulation/overdue systems. Moderate interest was shown in workshops on budgeting, beginning computer use, scheduling of computers for student use, instruction in other subjects, audiovisual inventory and depreciation, and overall administrative applications.

The role of library media specialists in teachers' utilization of instructional television (ITV) in Maryland was examined by Keller and Johnson using data from a 1981 Maryland ITV study.[95] An analysis of responses to separate questionnaires for principals, library media specialists, and randomly selected teachers found a relationship between the attitudes and practices of media specialists and teachers' use of ITV. It was concluded that the media specialist's role as change agent and consciousness-raiser should not be underestimated.

Competencies and Certification Requirements for School Media Personnel

The five reports in this category describe projects that identified library media specialist competencies, developed models for evaluating media specialists, assessed the competencies of recent graduates of library/media and educational technology programs, and compiled the current certification requirements in individual states and territories.

Pfister surveyed a stratified random sample of educators from Florida schools with one or more full-time media specialists in 1980 to determine which of the sixty-two competencies for media specialists proposed by the Florida Department of Education Council on Teacher Education they considered essential.[96] The twenty-one competency statements designated as essential by the respondents fell into three categories—teacher oriented, librarian oriented, and manager oriented. The remaining competencies included the categories of research and instructional technology; of these, thirty-one were considered nonessential by school district and building level supervisors, principals, and elementary and secondary teachers. Media educators, however, considered only four of the proposed competencies to be nonessential.

Pfister and Vincelette worked with administrators and media specialists in fourteen schools in four Florida counties in 1981-82 to develop, try out, and revise sets of empirically-based job duty statements and performance measures for evaluating building level media specialists.[97] Reactions to the preliminary models developed in each county were obtained through interviews with media specialists in each of the schools and an out of state school district, and from responses to presentations at several professional meetings. It was concluded that the proposed models for planning and evaluation procedures represented a significant improvement over what was currently being used and should be adopted by the schools involved.

In a more recent article describing this study, Pfister suggests that use of the models developed by this study could not only improve the performance appraisal of media specialists, but improve communication and

reduce role ambiguity, assist in planning for staff development, improve planning and goal setting, and provide guidelines for selecting new personnel.[98]

Correll reports an assessment of the library and information science program at East Texas State University (ETSU), which was conducted after the state's adoption of a new Learning Resources Specialist certification program, and the subsequent merger of the Departments of Library and Information Science and Educational Media and Technology at ETSU.[99] The immediate supervisors of twenty-eight 1980-83 ETSU graduates in the two departments were interviewed by telephone to obtain information on the competencies demonstrated by the graduates, four of whom were working as classroom teachers and the remainder as media specialists. Most of the graduates received high ratings in management competencies, leadership abilities, teaching competencies, professional growth, and personal qualities. None of the graduates was reported as being below average or weak in any of the five overall assessments.

Franklin reports the results of a survey conducted in 1983 to identify the current certification requirements of school library media specialists in individual states and to compare the information with that obtained by a 1978 survey.[100] It was found that (1) wide variations still exist in requirements, courses of study, and in nomenclature; (2) fourteen states have competency based programs, an increase from 1978; (3) twenty-two states require a practicum or internship; (4) sixteen states include requirements for district level supervisors/administrators/directors; and (5) five states include computer studies as elective courses.

School Media Staff

Schon and Roberts sent a questionnaire to 170 randomly selected Arizona elementary school librarians in 1984 to determine whether students were being used as aides and the extent of their involvement in library media programs.[101] Responses from ninety-five librarians indicated that children were used as aides in 83% of the schools surveyed. Positive aspects of using student aides were reported as providing growth experiences for students (84%); establishing good public relations within the community (62%); making possible a wider range of library services (42%); and giving the librarian more time for professional activities (40%). Librarians also reported, however, that classroom teachers often (31%) or sometimes (34%) objected when students were taken from the classroom for service in the library. Other problems identified included scheduling, although 54% of the respondents felt that they could overcome such problems. Few librarians (4%) felt that student aides were more trouble than they were worth, although 47% said that it sometimes seemed that way. The researchers suggest that as funds for education decrease and adult volunteers become more difficult to find with mothers working, student aides may be the only viable, affordable alternative for providing help with library operations.

34

District Level Media Staff

A study reported by Reed was undertaken in 1978-79 to gather and synthesize information on the salaries and related characteristics of school library administrative personnel in Kansas, initiate procedures for building a database of such information for decision making, and identify criteria for decisions regarding salaries in the literature.[102] Information obtained from questionnaires sent to full-time library media directors includes school district enrollment; number of years as a library media director; the length of the annual contract; educational preparation; and certification.

CONCLUSIONS

Research projects described in this review of the literature from the ERIC files include surveys at the national, state, and local levels to determine the status quo or identify trends in library media programs, censorship attempts, and use of new technologies, as well as perceptions of the media specialist's role and the competencies needed in fulfilling that role; reports on networking projects, program evaluations, library skills instruction, and ways of encouraging student use of media center materials; the effects of library media programs on student achievement and self concept; and evaluations of district level and centralized activities. Sources of these reports and papers range from the National Center for Education Statistics and state departments of education to individual library media specialists and graduate students.

Although individual studies are almost as diverse as their sources, the role of the library media program in the educational process has emerged as a major concern in several areas, including the impact of media programs on learning, library skills instruction, student use of libraries, and use of technology.

While all of these studies may not be of immediate interest to library media specialists in planning, implementing, and evaluating their programs, they do combine to provide an overview of the field and activities at various levels. Such an overview can serve a valuable function as a "consciousness raiser" and perhaps provide ideas for increasing the visibility of local programs.

Studies that may have more immediate application at the building or district level include research concerned with the impact of the media program on student achievement and self concept, and perceptions of the library media specialist's role and the competencies needed. These studies suggest that library collections, trained librarians, and instruction in library skills do have an impact on student achievement and self concept. The role of the library media specialist as a change agent is also highlighted in a study of the media specialists' role in the use of instructional television in Maryland schools. This is perhaps the most important area of library media research for assessing the current role of the media program in the instructional process and gaining recognition for its role in educational improvement. These studies can provide a basis for considering how a school or district program contributes to the instructional program and suggest ways in which it may be justified or improved and methodologies for determining its impact.

Descriptions of innovative programs using online bibliographic searching, or creating a network, a database for local use, or an online catalog in an elementary school library, can serve as sources of both ideas for new programs and practical information on what's involved in such programs, how well they worked, problems that were encountered and how they were solved (if indeed they were), and the materials and equipment required. Such information could also serve as a screening device to deter-

30

36

mine whether such projects would be feasible or desirable in a given situation. Additional ideas may also be found in descriptions of programs involving school and public library cooperation in working with young adults.

More qualitative measures of the library media program are provided by studies of student use and the impact of the program on students. Within the ERIC literature, this type of study seems to have largely taken the place of the earlier quantitative comparisons of available library resources and student achievement. These studies seek to identify the factors involved in student use of library materials, e.g., booktalking; techniques for encouraging student use, e.g., online bibliographic searching, an automated catalog, and networking; and measuring the impact of the program in other terms, e.g., self concept of students, improved access to materials, and increased student awareness of a variety of information sources and providers. Such studies may suggest new approaches to encouraging student use and provide guidelines for evaluating the effectiveness of both existing and new programs. One of the more recent projects compared achievement on measures of library skills in individual schools with the rating of the media center in that school. In the introduction to that report, Short mentions the lack of visibility of media centers in the *Nation at Risk* and addresses the need to create a more positive image of the library media center role in the eyes of the public.[103]

These studies also include evaluations of library skills instruction at the elementary and secondary level. Media specialists engaged in developing library skills instruction programs (there are a number of program descriptions in ERIC) may want to evaluate the effectiveness of their programs in terms of some of the variables involved in use studies rather than student achievement. More recent projects, however, include comparisons of the effectiveness of various media for the presentation of library skills instruction, a model of the library research process, and an evaluation of instructional materials developed in-house. Such studies may indicate emphasis on new areas in media programs, and these reports could be helpful in planning programs at the school or district level.

Other studies concerned with specific problems—book losses, the impact of budget cutbacks on programs, material selection and resource sharing, time lags in centralized processing, needs for specific types of resources—may suggest new approaches to dealing with similar problems in other situations. Local research is not expected to be as rigorously controlled as studies designed to produce results that are generalizable to larger populations, and the methodologies described could be used as guidelines for less ambitious projects.

Two reviews of library media research focus on the instructional role of the library media specialist and the perceptions of that role held by administrators, teachers, and media specialists themselves. Hodges cites perception studies which have found that the instructional role is not fully understood by some media professionals, as well as administrators and teachers. He argues that the competencies needed to assume an active role in the instructional process include curriculum planning, implementation,

31

and evaluation strategies; analysis of materials in terms of instructional objectives; the use of media to achieve objectives; interpersonal skills and group dynamics; and understanding the teacher's point of view. He concludes that:

> The critical factor appears to be a library media specialist who prioritizes this activity, and not the size of the collection or of the facility. Concomitantly, teachers and administrators should be prepared through their education to expect this as a regular function of the library media program.[104]

In her survey of research on role expectations of library media professionals, Pitts compares the attitudes of a traditional school librarian in a school where the principal had not encouraged her to participate in curriculum activities, with those of a media professional whose principal wanted her to develop a strong role for the media center in the instructional program.[105] The findings cited reveal that the attitudes of some media professionals, who actually prefer their traditional role, were as much of a problem as those of administrators and teachers; that principals who had worked in schools with well-developed programs were more supportive of media professionals' involvement in curriculum activities; that professional level media specialists could promote the media program and work directly with teachers more effectively than part-time professionals or nonprofessionals; and that librarians with high extroversion scores on the personality inventory and a high degree of involvement in the curriculum were the best predictors of high material circulation.

In addition to the competencies and strategies for implementing change that are presented in these two research reviews, Hodges opines that "school library media personnel appear to be in a strong position to assist in the Computer Literacy 'Basic' identifed in *A Nation at Risk*" as more and more of them are becoming increasingly involved in training students to use both recreational and instructional software at all levels.[106]

The *Alliance for Excellence* recommendations focus on teaching students how to use information resources and information, arguing that these skills are of utmost importance in an information society. Two of the three studies reviewed under Library Skills Instruction address two aspects of instructional design: (1) a comparison of the instructional effectiveness of three different media; and (2) the development of a model of the library research process as experienced by high school students. The library media specialist's role in instructional design is a topic frequently encountered in the current literature, and it is encouraging that research is being done in this area. Library skills instruction is also included in special programs taught to encourage student use of school libraries and media centers, in teaching elementary school students to use a microcomputer catalog, and in programs for high school students that involve use of online computer searching.

Several studies focused on media and library personnel, another of the concerns expressed in *Alliance for Excellence*. These include research on

32

38

attitudes toward the library media specialist's participation in instructional development; the computer background of media specialists and their attitudes toward computers; and the role of media specialists as change agents in the adoption of instructional innovation. Other concerns include competencies for library media specialists and their use in performance evaluations.

Although it may be too soon to expect to see much research responding directly to *A Nation at Risk*, Short does cite the report directly in the introduction to her study of the impact of the quality of media programs on learning.[107]

It will be interesting to see whether any new directions in library media research emerge as a result of *A Nation at Risk* and *Alliance for Excellence*, and how researchers address the challenges posed by the two reports.

Researchers are encouraged to submit reports on their studies to the ERIC system as a means of disseminating information about their work to both practitioners and other researchers in this field. Much of the literature in ERIC is submitted to the system through regular channels, e.g., reports of federally funded research projects, state funded projects, and publications from educational or professional organizations; however, other materials must be requested individually from their authors or producers. Others are submitted to the system by individual authors or researchers who wish to share their work with their peers. Such materials may well include reports on local action research that would normally have a very limited distribution. Such materials are a welcome and valuable addition to the database.

The ERIC Clearinghouse on Information Resources actively seeks such reports for inclusion in *RIE* and the ERIC microfiche collection, and monitors a number of library journals for relevant articles to be indexed for *CIJE*.

The diversity of sources represented in this review demonstrates that the system can be effective in bringing together the fugitive literature in this area and providing access to it. The submission of such papers by their authors helps ERIC in its efforts to provide coverage of this type of literature for use by others.

39

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42

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